

What is claimed is:

1        1.    A system for providing self-installing software components for  
2 network service execution, comprising:  
3            a basic communication framework established with a service host system  
4 executing a network service software component to provide a network service;  
5            a checking mechanism to determine availability of the network service  
6 software component and to verify prerequisites against a runtime environment  
7 through the service host system; and  
8            a helper mechanism to execute a code bundle providing the network  
9 service software component through the service host system logically grouped  
10 with installation instructions for the network service software component.

1        2.    A system according to Claim 1, further comprising:  
2            a set of well-known methods provided through a public interface defined  
3 on the network service software component.

1        3.    A system according to Claim 2, wherein the well-known methods  
2 are selected from the group comprising at least one of an availability method,  
3 environment verification method, code retrieval method, and an update method.

1        4.    A system according to Claim 1, wherein the network service  
2 software component is updated through the service host system.

1        5.    A system according to Claim 1, further comprising:  
2            an installation predicate object defined on the service host system to verify  
3 that the runtime environment satisfies prerequisites necessary to install and  
4 execute the network service software component.

1        6.    A system according to Claim 5, wherein the installation predicate  
2 object is implemented in at least one of mobile code for execution within a  
3 managed code platform and in platform-specific native code.

1        7.    A system according to Claim 1, further comprising:

2           a helper object defined on the service host system to locate and obtain  
3    copies of one or more of the network service software components necessary to  
4    satisfy one or more of the prerequisites.

1           8.       A system according to Claim 7, wherein the helper object is  
2    implemented in at least one of mobile code for execution within a managed code  
3    platform and in platform-specific native code.

1           9.       A system according to Claim 1, further comprising:  
2           an update object defined on the service host system to identify, retrieve  
3    and install any updates to the network service software component.

1           10.      A system according to Claim 9, wherein the update object is  
2    implemented in at least one of mobile code for execution within a managed code  
3    platform and in platform-specific native code.

1           11.      A system according to Claim 1, wherein the network service  
2    software component in the code bundle is implemented to offer functionality  
3    substantially equivalent to the network service provided by the service host  
4    system.

1           12.      A system according to Claim 1, wherein the network service  
2    software component in the code bundle is implemented to offer functionality  
3    differing from the network service provided by the service host system.

1           13.      A system according to Claim 1, wherein the basic communication  
2    framework comprises a Java operating environment.

1           14.      A method for providing self-installing software components for  
2    network service execution, comprising:  
3           establishing a basic communication framework with a service host system  
4    executing a network service software component to provide a network service;

5           determining availability of the network service software component and  
6   verifying prerequisites against a runtime environment through the service host  
7   system; and

8           executing a code bundle providing the network service software  
9   component through the service host system logically grouped with installation  
10   instructions for the network service software component.

1           15.    A method according to Claim 14, further comprising:  
2           specifying a set of well-known methods provided through a public  
3   interface defined on the network service software component.

1           16.    A method according to Claim 15, further comprising:  
2           defining the well-known methods selected from the group comprising at  
3   least one of an availability method, environment verification method, code  
4   retrieval method, and an update method.

1           17.    A method according to Claim 14, further comprising:  
2           updating the network service software component through the service host  
3   system.

1           18.    A method according to Claim 14, further comprising:  
2           defining an installation predicate object on the service host system to  
3   verify that the runtime environment satisfies prerequisites necessary to install and  
4   execute the network service software component.

1           19.    A method according to Claim 18, wherein the installation predicate  
2   object is implemented in at least one of mobile code for execution within a  
3   managed code platform and in platform-specific native code.

1           20.    A method according to Claim 14, further comprising:  
2           defining a helper object on the service host system to locate and obtain  
3   copies of one or more of the network service software components necessary to  
4   satisfy one or more of the prerequisites.

1        21.    A method according to Claim 20, wherein the helper object is  
2    implemented in at least one of mobile code for execution within a managed code  
3    platform and in platform-specific native code.

1        22.    A method according to Claim 14, further comprising:  
2        defining an update object on the service host system to identify, retrieve  
3    and install any updates to the network service software component.

1        23.    A method according to Claim 22, wherein the update object is  
2    implemented in at least one of mobile code for execution within a managed code  
3    platform and in platform-specific native code.

1        24.    A method according to Claim 14, further comprising:  
2        implementing the network service software component in the code bundle  
3    to offer functionality substantially equivalent to the network service provided by  
4    the service host system.

1        25.    A method according to Claim 14, further comprising:  
2        implementing the network service software component in the code bundle  
3    to offer functionality differing from the network service provided by the service  
4    host system.

1        26.    A method according to Claim 14, wherein the basic  
2    communication framework comprises a Java operating environment.

1        27.    A computer-readable storage medium holding code for performing  
2    the method according to Claim 14.

1        28.    An apparatus for providing self-installing software components for  
2    network service execution, comprising:  
3        means for establishing a basic communication framework with a service  
4    host system executing a network service software component to provide a  
5    network service;

6           means for determining availability of the network service software  
7   component and means for verifying prerequisites against a runtime environment  
8   through the service host system; and  
9           means for executing a code bundle providing the network service software  
10  component through the service host system logically grouped with installation  
11  instructions for the network service software component.